Science, Service, Stewardship

Kona IEA working group meeting

PIFSC

March 7, 2010

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Kona IEA meeting initial steps

Scoping: What are our key (ecosystem) management issues?

Identify: What are the main drivers of the system?

Work plan: what needs to be done and who will do it?

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Scoping: What are our key (ecosystem) management issues?

1. Identify economic/anthropogenic impacts
    1. Coastal dev., aquaculture, ocean energy, etc
    2. Positive impacts from tourism (capacity to sustain?)
2. Impacts of fishing (extractive)
    1. Commercial/non-commercial/subsistence (Trad vs Mod)
3. Effects of climate change on Kona region
4. Shared user areas (MPAs, Rec dive/Aq. Fish coll.)
5. Introduced species/species diversity/endemic

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Council key (ecosystem) management issues

1. Areas of larval retention (circulation model)
2. Aqua(Cage)culture (Also PIRO) Nutrient effect? Exotics becoming introduced?
3. Aquarium industry (model area of closure)
4. Billfish (catch data) DAR 20 yr. CPUE decline. Model closed area for Blue Marlin
5. Mapping out traditional knowledge
6. Private FADs (hated locally)
7. False Killer Whales

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Kona (Non-official pilot project)

Establish the foundation for Kona IEA development

1. **Scoping**: Identify management goals, drivers
2. Create data management infrastructure
3. Review and develop ecosystem indicators
4. Create/refine Ecosystem model(s)

Deliverables

- **Identify and accumulate relevant Kona data sets (portal) (Y1)**
- **Construct**/refine **ecosystem indicators (point, TS) (Y1**/2)
- **Construct preliminary Kona Ecopath(sim) model (Y1**?/2)
- **Negotiation of data-sharing and collaboration (Y1**?/2)
- **2-3 page "brochure" detailing work to date and future IEA plan (external) i.e. "what would we do with funding" (Y1)**
- **Action plan for work towards IEA (internal) (Y1)**

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Next Steps

Management		Research
Partners		Collation
Management	EI	Deploy/proj
Outreach	Models	Data portal

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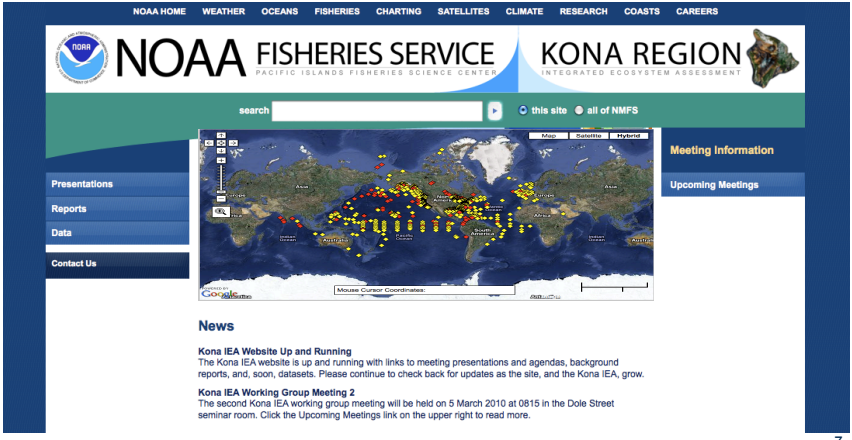
Data portal – Embryonic stage



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List 2 – Data and status

1. Kimberly: MHI MRI database, QLCC, Nat. HI wind database, WespacFIN
2. Stewart: FEAT, B. of Econ. Anal., Dep. Of Labor, Census Dep.
3. Jeff/Reka: NDBC Buoys/Ocean models (e.g. HYCOM, tidal), satellite data
4. Ivor: HI 26 sites (4x/yr)fish/coral cover (Kona sites?)
5. Stacy: turtle data
6. Ed: 20 year N/S summer recruitment time series
7. CRED: CORIS database

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List 2 – Data and status

1. Bob H: Kona cruise data
2. Marine Recreational data: Has “inland” but not specifically Kona
3. Ivor?: DAR 3 locations for coral reef fish (70s)
4. Ed?: Ted Hobson’s Kona series

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Drivers (EI): What makes a healthy Kona?

1. Physics – Trades (NWS), NEC speed/MEI?
2. Chemistry – Salinity Alkalinity? pH?
3. Biology – Species abundance? Diversity? Indicator species (e.g. Yellow Tang, billfish catch?), turtles (FPP).
4. Socio – Charter cost, beach closure, fish cost, gas cost. TBD
5. Geo(logy)graphy – Hot spots, KOAs, fresh water injection points, sediment (sed outflow) (GGP), Bathymetry

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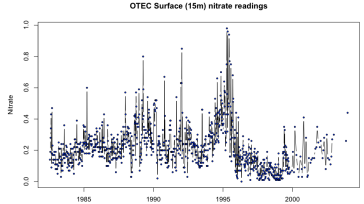
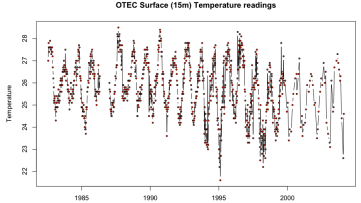
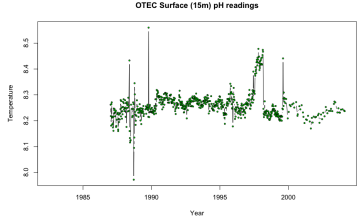
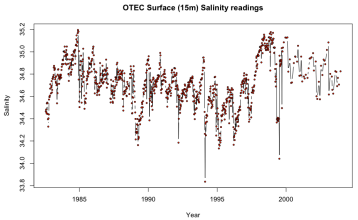
EI examples

OTEC measurements (15m at Keahole Pt)









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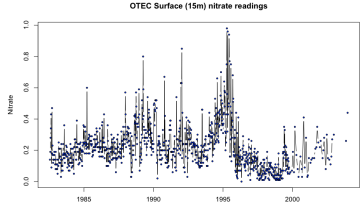
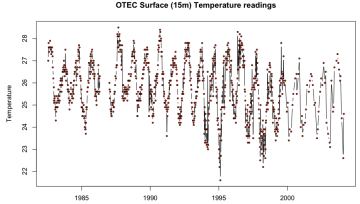
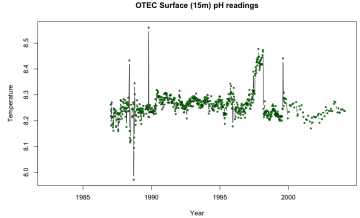
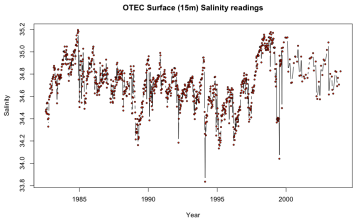
EI examples

National Data Buoy Center









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Models: What is important to capture?

1. Physical? – HYCOM, Tidal model? Kobayashi
2. Chemistry? Water quality, Available?
3. Biology/Ecology – EwE? MSA? Evan? Contract?
4. Soc/Econ? Stewart? Contract?

Similar to Ma et al. 2010, can we combine model frameworks to understand system, and effects from drivers

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Work plan -

1. Evan
2. Ed
3. Stewart